Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

Listing of Claims:

1. (Currently Amended) A method of providing orthogonal CDMA communication in a return link including a satellite, the method comprising:

receiving ~~a first pilot signal,~~ at a plurality of terminals from the satellite, a first pilot signal generated at a ground station;

deriving, within each of the plurality of terminals, at least one transmit timing characteristic from the received first pilot signal~~, wherein deriving is performed within each of the plurality of terminals~~;

transmitting, at an assigned time and to the ground station through the satellite, a second pilot signal from each of the plurality of terminals in accordance with the derived at least one transmit timing characteristic;

receiving, from the satellite, a control signal~~, the content of the control signal~~ generated at the ground station and providing instructions to adjust the at least one transmit timing characteristic; and

adjusting, responsive to the control signal, the at least one transmit timing characteristic.

2. (Original). The method of claim 1, further comprising providing a reverse uplink receiver beam width of approximately 0.5 degree.

3. (Currently Amended) A method of operating a communications system having a forward

link and a reverse link including a satellite, to provide orthogonal CDMA communication in the reverse link, comprising:

transmitting a first pilot signal ~~from~~ generated at a ground station through the satellite in the forward link direction;

receiving the first pilot signal, generated at the ground station from the satellite, at a terminal, and recovering carrier phase and modulation chip clock timing therein;

transmitting a second pilot signal ~~from~~ generated at the terminal through the satellite in the reverse link direction;

comparing, at the ground station, the second pilot signal generated at the terminal to a reverse link reference signal;

transmitting, in the forward link direction through the satellite, a control signal, generated at the ground station, ~~the content of the control signal~~ based at least in part on the comparison between the second pilot signal and the reverse link reference signal; and

adjusting at the terminal, responsive to the control signal, at least one operational parameter of the terminal.

4. (Cancelled).

5. (Original) The method of claim 3, further comprising transmitting orthogonal CDMA traffic signals from the terminal.

6. (Original) The method of claim 3, wherein the at least one operational parameter of the terminal comprises transmit timing; and adjusting is performed to maintain the transmit timing of the terminal to within a pre-selected fractional part of a chip period.

7. (Original) The method of claim 6, wherein the pre-selected fractional part is one-eighth of a chip period, or less.

8. (Original) The method of claim 6, further comprising providing a reverse uplink receiver beam width of approximately 0.5 degree.

9. (Original) The method claim 3, wherein the control signal directs the terminal to advance its transmit timing.

10. (Original) The method of claim 9, wherein the transmit timing is advanced by a predetermined amount.

11. (Original) The method of claim 9, wherein responsive to the control signal, the terminal transmit timing is adjusted by an amount specified by the control signal.

12. (Original) The method of claim 3, wherein the control signal directs the terminal to retard its transmit timing.

13. (Original) The method of claim 12, wherein the transmit timing is retarded by a predetermined amount.

14. (Original) The method of claim 12, wherein responsive to the control signal, the terminal transmit timing is adjusted by an amount specified by the control signal.

15. (Original) The method claim 3, wherein the control signal directs the terminal to adjust its transmission frequency.

16. (Currently Amended) A terminal, comprising:

means for receiving a first pilot signal generated at a ground station from a satellite;

means for recovering carrier phase and modulation chip clock timing from the first pilot signal;

means for transmitting a second pilot signal from the terminal through the satellite;

means for receiving a control signal generated at the ground station from the satellite;

means for transmitting from the terminal through the satellite an orthogonal CDMA traffic signal~~, the orthogonal CDMA traffic signal~~ having a first timing characteristic; and

means for adjusting the first timing characteristic of the terminal in response to said control signal.

17. (Canceled).

18. (Currently Amended) The terminal of claim 16, wherein the ~~at least one operational parameter~~ first timing characteristic of the terminal comprises transmit timing; and said means for adjusting maintains the transmit timing of the terminal to within a pre-selected fractional part of a chip period.

19. (Original) The terminal of claim 18, wherein the pre-selected fractional part is one-eighth of a chip period, or less.

20. (Original) The terminal of claim 16, further comprising a means for providing a reverse uplink receiver beam width of approximately 0.5 degree.

21. (Original) The terminal of claim 16, wherein the means for adjusting the first timing characteristic comprises circuitry for advancing a transmit timing characteristic of the orthogonal CDMA traffic signal.

22. (Original) The terminal of claim 16, wherein the means for adjusting the first timing directs the terminal to advance its transmit timing.

23. (Original) The terminal of claim 22, wherein the transmit timing is advanced by a predetermined amount.

24. (Original) The terminal of claim 22, wherein the means for adjusting the first timing characteristic comprises circuitry for advancing a transmit timing characteristic of the orthogonal CDMA traffic signal by an amount specified by the control signal.

25. (Original) The terminal of claim 16 wherein the means for adjusting the first timing characteristic comprises circuitry for retarding a transmit timing characteristic of the orthogonal CDMA traffic signal.

26. (Original) The terminal of claim 25 wherein the means for adjusting the first timing characteristic comprises circuitry for retarding a transmit timing characteristic of the orthogonal CDMA traffic signal by a predetermined amount.

27. (Original) The terminal of claim 25, wherein the means for adjusting the first timing characteristic comprises circuitry for retarding a transmit timing characteristic of the orthogonal CDMA traffic signal by an amount specified by the control signal.

28. (Original) The terminal of claim 25 wherein the circuitry for retarding a transmit timing characteristic of the orthogonal CDMA traffic signal comprises a clock output connected to a code modulator, and a control input connected to a signal receiver.

29. (Currently Amended) A ground station operating in a communications system having a forward link and a reverse link including a satellite, to provide orthogonal CDMA communication in the reverse link, comprising:

means for transmitting a first pilot signal generated at the ground station through the satellite in the forward link direction;

means for receiving a second pilot signal from at least one terminal in the reverse link direction through the satellite, and for recovering carrier phase and modulation chip clock timing therein;

means for comparing the second pilot signal to a reverse link reference signal; and

means for transmitting, in the forward link direction through the satellite, a control signal based at least in part on the comparison between the second pilot signal and the reverse link reference signal generated at the ground station, to control at least one operational parameter of the terminal~~, the content being based at least in part on the comparison between the second pilot signal and the reverse link reference signal~~.

30. (Currently Amended) A terminal device, comprising:

a processor;

a memory of stored CDMA signal transmit timing characteristic control information coupled to the processor; and

a machine accessible medium, coupled to the processor, having instructions encoded therein, the instructions, when executed by the processor, cause the terminal device to:

receive at the terminal from a satellite a first pilot signal generated at a ground station;

recover carrier phase and modulation chip clock timing from the first pilot signal;

transmit a second pilot signal generated at the terminal through the satellite;

receive a control signal generated at the ground station from the satellite;

transmit an orthogonal CDMA traffic signal having a first timing characteristic; and

adjust~~ing~~ the first timing characteristic in response to said control signal.

31. (Original) The terminal device of claim 30, wherein the instructions, when executed by the processor further cause the terminal device to provide a reverse uplink receiver beam width of approximately 0.5 degree.

32. (Original) The terminal device of claim 30, wherein the instructions, when executed by the processor further cause the terminal device to advance a transmit timing characteristic of the orthogonal CDMA traffic signal.

33. (Original) The terminal device of claim 30, wherein the instructions, when executed by the processor further cause the terminal device to retard a transmit timing characteristic of the orthogonal CDMA traffic signal.

34. (Original) The terminal device of claim 30, wherein memory is part of the terminal device.

35. (Original) The terminal device of claim 30, wherein the instructions, when executed by the processor further cause the terminal device to adjust a transmit frequency of the orthogonal CDMA traffic signal by an amount specified by the control signal.

36. (New) A computer program product, comprising:
computer-readable medium comprising:
code for causing a computer to:
recover carrier phase and modulation chip clock timing from a first pilot signal;
transmit a second pilot signal generated at the terminal through the satellite;
receive a control signal generated at the ground station from the satellite;
transmit an orthogonal CDMA traffic signal having a first timing characteristic; and
adjust the first timing characteristic in response to said control signal.

37. (New) The computer program product of claim 36, wherein the computer-readable medium further comprises code for causing the terminal device to provide a reverse uplink receiver beam width of approximately 0.5 degree.

38. (New) The computer program product of claim 36, wherein the computer-readable medium further comprises code for causing the terminal device to advance a transmit timing characteristic of the orthogonal CDMA traffic signal.

39. (New) The computer program product of claim 36, wherein the computer-readable medium further comprises code for causing the terminal device to retard a transmit timing

characteristic of the orthogonal CDMA traffic signal.

40. (New) The computer program product of claim 36, wherein the computer-readable medium further comprises code for causing the terminal device to adjust a transmit frequency of the orthogonal CDMA traffic signal by an amount specified by the control signal.